

ABSTRACT

A device for generating an intense radio frequency pulse through use of a helical Magneto-Cumulative Generator (MCG). The MCG provides a chemical explosion and acts as a converter to transform the chemical/mechanical energy into an electrical energy impulse. Due to the detonation/combustion process, a vortex wake is produced which assumes the role of a quarter-wave trap/antenna. If the MCG is in high velocity flight, a bow-shaped shockwave, followed by a second shock front, is established around the head of the MCG, becoming a second antenna. Without flight, two MCG's are placed head-to-head so that the vortex wakes emit in opposite directions. Since the explosion destroys the MCG, a model is created to perform multiple tests of the ability of an MCG to act as an RF device.